
Subject: How to plot the magnetic field vector along the trajectory
Posted by duxiyu@gmail.com on Wed, 12 Mar 2008 03:05:09 GMT
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Dear all,

I have the magnetic field data and spacecraft position data.
I want to plot the magnetic field vector along the trajectory.
I think I should first plot the spacecraft trajectory, and then plot
the magnetic field vector along the trajectory.
But I do not know which procedure in IDL can perform the second step.
Is there anyone who can help me?

Best wishes,
Du

Subject: Re: How to plot the magnetic field vector along the trajectory
Posted by [David Fanning](#) on Wed, 12 Mar 2008 14:45:56 GMT
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Lasse Clausen writes:

> We are not throwing away anything, we are merely projecting into the
> XY plane... ;-) You have to project somewhere as the computer screen
> is not capable of displaying 3D - nor is paper, incidentally. And the
> usual way to do this kind of thing is to provide three plots, one in
> the XY plane, one in XZ and one in YZ. You then have to assemble the
> 3D picture in your head.

Or, you could envision an object graphics solution with
an "earth" and "satellite" revolving around it, casting
a shadow trajectory onto the earth with a magnetic vector
rotating about in the plane of the satellite.

All I'm saying is, the question lacked enough detail,
for whatever good reason, to know how to form a sensible
answer. And that when you ask better questions, you get--
generally--better answers.

I agree that this question was borderline for such a
response. Even I could tell English was not the first
language. But coming, as it did, at the end of a long
day and after several seriously bad questions from the
past week, I just thought a reminder might be useful. :-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: How to plot the magnetic field vector along the trajectory

Posted by [lasse](#) on Wed, 12 Mar 2008 15:09:41 GMT

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On 12 Mar, 15:45, David Fanning <n...@dfanning.com> wrote:

> Lasse Clausen writes:

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>> XY plane... ;-) You have to project somewhere as the computer screen
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More importantly, IDL can do that sort of thing? With shadows and all? Object graphics I hear you say... Mmmm, so far I have ignored everything involving object graphics. Well, maybe one fine day.

Cheers
Lasse Clausen

Subject: Re: How to plot the magnetic field vector along the trajectory
Posted by [jdu](#) on Wed, 12 Mar 2008 15:35:44 GMT
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Thanks a lot.
I have found the internal procedure 'VELOVECT' which can produce a two-dimensional velocity field plot.
It just meet my request.
It seems that the 'iVector' can also produce the figures I want.

Du

On Mar 12, 10:23 pm, Lasse Clausen <la...@lbnc.de> wrote:

> On 12 Mar, 14:26, David Fanning <n...@dfanning.com> wrote:

>

>

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>> Lasse Clausen writes:

>>> I found the question perfectly straight forward already from the first
>>> post. Maybe it's to do with the fact that I fiddle with spacecraft
>>> trajectories and magnetic fields every day. Or maybe I'm just in a
>>> better mood than David...

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>> No question I was in a bad mood after wasting most of the
>> afternoon looking for vestiges of earlier IDL installations
>> on my computer, but it seems to me that how you go about
>> adding magnetic vectors depends *entirely* on how you go
>> about plotting the trajectory.

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>> In the proposed solution, I see we are just throwing
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> to plot the lines.
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> Cheers
> Lasse Clausen

Subject: Re: How to plot the magnetic field vector along the trajectory
Posted by [mankoff](#) on Wed, 12 Mar 2008 17:00:26 GMT
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On Mar 12, 11:09 am, Lasse Clausen <la...@lbnc.de> wrote:
> On 12 Mar, 15:45, David Fanning <n...@dfanning.com> wrote:
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Play around with "iddemo". There is a satellite orbiting the earth (I think with Ground Track). The earth is rotating. Clouds are rotating separately from Earth, etc.

Subject: Re: How to plot the magnetic field vector along the trajectory
Posted by manodeep@gmail.com on Wed, 12 Mar 2008 21:30:51 GMT
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Hello Du,

For a 2-d projection, try partvelvec.pro (http://www.astro.washington.edu/deutsch-bin/getpro/library32.html?P_ARTVELVEC)

velovect needs your data to be in a 2-d array format instead of the scattered data points that you have.

Alternatively, the plots solution with a previous call to scale3 to

establish the axis and the
ranges should also be sufficient.

Cheers,
Manodeep

On Mar 12, 10:35 am, jdu <jdu.u...@gmail.com> wrote:

> Thanks a lot.
> I have found the internal procedure 'VELOVECT' which can produces a
> two-dimensional velocity field plot.
> It just meet my request.
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> On Mar 12, 10:23 pm, Lasse Clausen <la...@lbnc.de> wrote:

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Subject: Re: How to plot the magnetic field vector along the trajectory
Posted by duxiyu@gmail.com on Thu, 13 Mar 2008 12:40:35 GMT
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I am not sure what the 'iddemo' means and cannot find its information
in IDL Help.
Could you introduce it in detail?

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On Mar 13, 1:00 am, mankoff <mank...@gmail.com> wrote:
> On Mar 12, 11:09 am, Lasse Clausen <la...@lbnc.de> wrote:
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Subject: Re: How to plot the magnetic field vector along the trajectory
Posted by duxiyu@gmail.com on Thu, 13 Mar 2008 12:42:56 GMT
[View Forum Message](#) <> [Reply to Message](#)

Thank you, Manodeep,
It is very useful for me.

Du

On Mar 13, 5:30 am, Manodeep Sinha <manod...@gmail.com> wrote:
> Hello Du,
>

> For a 2-d projection, try partvelvec.pro (
<http://www.astro.washington.edu/deutsch-bin/getpro/library32.html?PARTVELVEC>)
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Subject: Re: How to plot the magnetic field vector along the trajectory
Posted by [mankoff](#) on Thu, 13 Mar 2008 13:33:29 GMT
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On Mar 13, 8:40 am, "dux...@gmail.com" <dux...@gmail.com> wrote:
> I am not sure what the 'idldemo' means and cannot find its information
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>> separately from Earth, etc.
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```

Type "iddemo" at the *nix CLI, or "demo" at the IDL> prompt in IDL to see the demo.